Association of maternal nutrition with transient neonatal hyperinsulinism.

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Résumé en anglais	OBJECTIVE: The objective was to determine whether maternal nutritional factors are associated with transient neonatal hyperinsulinism (HI). DESIGN AND SETTING: Case control study in 4 French tertiary Obstetrics and Neonatology Departments between 2008 and 2015. METHODS: Sixty-seven mothers of neonates diagnosed with transient hyperinsulinism and 113 mothers of controls were included. The screening for hyperinsulinemic hypoglycemia in neonates was performed because of clinical symptoms suggestive of hypoglycemia or in the presence of conventional risk factors (small-for-gestational-age, prematurity, anoxo-ischemia, hypothermia, macrosomia, gestational diabetes). Hyperinsulinemic hypoglycemia was confirmed in the HI neonates and ruled out in the controls. This allowed for comparing maternal nutrition in cases and controls in a context of similar risk factors. One to 2 mothers of control neonates were included per case, and a food frequency questionnaire was addressed to the mothers between day 5 and day 10 after the birth of their newborn. RESULTS: Crude odds ratio showed that maternal weight gain, abnormal fetal rate, C-section, gender, consumption of fresh cooked vegetables, fresh fruits and fruit juices, low fat diary products, light fat products, and daily bread were significantly associated with hyperinsulinism. Maternal body mass index, hypertension, gestational diabetes, birth weight percentile, gestational age and 5-minute Apgar score were not related to HI. In a multiple backward logistic regression model, consumption of fresh cooked vegetable ≥1/day (OR = 0.33 [0.14-0.77]) and light-fat products ≥1/week (OR = 0.24 [0.08-0.71]) was protective against hyperinsulinism, whereas gestational weight gain >20 kg (OR = 9.5 [2.0-45.5]) and between 15-20 kg (OR = 4.0 [1.2-14.0]), abnormal fetal heart rate (OR = 4.4 [1.6-12.0]), and C-section (OR = 3.4 [1.3-8.9]) were risk factors. CONCLUSIONS: A diet rich in fresh cooked vegetable and reduced in fat, together with the avoidance of a high gestational weight gain may be protective against transient neonatal hyperinsulinism.
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